Case study on Extractive Industries prepared for the Lancet Commission on Global Governance

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We would like to acknowledge the immense contribution of the many community members, workers and dedicated translators in both the gold and platinum mining areas of South Africa who made this report possible. They selflessly and courageously shared their stories and expertise at short notice, in the fervent hope that in doing so, they are contributing towards sustainable collective solutions. Also, many thanks to Jennifer Moore and Jamie Kneen of MiningWatch Canada, and Maria Hamlin Zuniga of CISAS for providing comments.
Introduction

The health impact of extractive industries activities, including mining and oil/gas drilling, has generated growing concern across the globe and raised important questions about the social and political forces and governance structures underpinning these activities. Although many would argue that mining and drilling are necessary to support the global economy, there are important counterarguments about how extractive industry activities could be better regulated, contained, or even eliminated in order to reduce the negative effects on human and environmental health. As part of this discussion, it is essential that issues of oversight, enforcement of health protections be front and center, together with expanding the role and voice of the communities affected by extractive industries at the decision-making table. This case study will use the context of mining to delineate some of the major challenges of extractive industries to health and wellbeing, and suggest actions to improve the plight of the 3.4 billion people who live in countries with significant mining operations. Following a brief description of some of the health impacts of mining, the case study considers claims of economic benefit to communities and host countries, presents a report on the mining context in South Africa, identifies challenges in relation to national governance processes, describes some of the power of growing of social movements for mining justice, and presents recommendations for improving governance of extractive industries.

The frustration of communities in which mining and drilling take place to improve their living conditions has been so extreme and so long-lasting that many are beginning to take an absolutist, anti-mining stance, and mantras such as “Leave the oil in the soil” are gaining voices. This is an entirely understandable and reasonable response to the inability of national and global governance bodies to generate the political will to make measurable progress that uses standards of success agreed upon by communities.

An effective response to the health impact of extractive industries must be engaged at community, national and international/global levels, and must encompass not only superficial measures of health outcomes but meaningful solutions to the myriad impacts of social determinants of health shaped by extractive industries, ranging from environmental degradation to income inequality to structural violence and beyond. Governance reforms must be guided by principles of transparency, participation, accountability, community determination, reciprocity, and enforcement of laws and treaties, among others. Finally, the distribution of benefits through economic gain, employment, and community development, among other measures, is increasingly documented as highly inequitable at multiple levels. These concerns, along with the information following, suggest that improved governance of extractive industries is a key global justice issues of our time. We hope the time has come to act with clear eyes.
**Global context**

Mining is one of the most lucrative—and destructive—industries on earth. In 2006, the 40 largest companies in the mining industry (representing 80% of the market) brought in US$249 billion in revenues (PricewaterhouseCoopers, 2007). In mineral-rich Russia, mining has become the country’s leading industry, with 14% of world extraction in recent years (Birn et al., 2009). China continues to expand overseas mining operations, especially in Africa, that has been described as pillaging, while other countries are content to “pillage” their own land.

Mining involves surface techniques (strip mining or quarrying in open pits) and underground extraction (drilling holes, tunnels, and shafts in order to reach valuable ore) to recover a range of minerals and metals, including diamonds and other precious stones, gold, silver, copper, iron, nickel, tin, lead, and bauxite. Coal and oil shale are mined as energy sources; uranium for nuclear reactors, military ammunition, and shields; and destructive wars (Birn et al., 2009).

**Impact of extractive industries on health**

Many studies on the health effects of extractive activities are focused on a specific site, making it difficult to provide evidence from the literature about generalized health impacts. While some national databases exist to report injuries and deaths as well as compliance with occupational health laws, they are often too unreliable to meaningfully cite, especially in the lowest income countries, where extractive industry activity is most dangerous. In the section below, we present some of the summary findings related to various aspects of mining and health that have been documented, along with testimonials from recent interviews with South African mining communities and others.

**Physical environment and health**

Occupational health injuries and illnesses impose significant health and social costs to workers and their families. Historically mining was among the deadliest of occupations due to brown lung disease, fatal explosions and mine collapses. Mining, especially coal mining, causes extremely high occupational mortality. Due to poor ventilation in underground shafts, miners are exposed to harmful gases, dust, toxins, and heat, leading to silicosis and other lung diseases, heat stroke, and cancer. Underground explosions of methane and other gases trap and kill thousands of miners every year, with under-regulated Chinese mines currently leading the death toll. Uranium miners face elevated levels of lung cancer, silicosis, and, together with the surrounding population, are exposed to radiation, causing birth defects, immune impairment, and cancer. Uranium mine runoff also threatens fish stocks, animal livestock,

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*The Mining Toll in South Africa*

"Approximately 69 000 miners died in accidents in the first 93 years of this century and more than a million were seriously injured. In 1993, out of every 100 000 gold miners, 113 died in accidents, 2 000 suffered a reportable injury, 1 100 developed active tuberculosis and of these 25 died; in 1990 about 500 were identified as having silicosis."

*Laurie Flynn - Submission to the South African Truth and Reconciliation Commission. 1998*
and wildlife. The numerous mines built in the Soviet era are poorly maintained and are among the most dangerous in the world, with hundreds killed in recent years due to explosions and collapses (Birn et al., 2009). Even the extraction of more innocuous materials has been shown to have an impact on the long-term health of workers, such as with increased rates of certain malignancies with forms of nickel (Lightfoot et al., 2010).

Although mining operations vary in terms of the health risks to workers, some generalizations can be made. A large scale study by Eisler in 2003, for instance, found that underground gold miners in Australia, North America, South America, and Africa suffered from “decreased life expectancy; increased frequency of cancer of the trachea, bronchus, lung, stomach, and liver; increased frequency of pulmonary tuberculosis (PTB), silicosis, and pleural diseases; increased frequency of insect-borne diseases, such as malaria and dengue fever; noise-induced hearing loss; increased prevalence of certain bacterial and viral diseases; and diseases of the blood, skin, and musculoskeletal system” (Eisler, 2003). And when miners have underlying conditions such as HIV infection, or are exposed to health harms through social environments typical of miners such as excessive alcohol and tobacco consumption, injuries and illnesses may be more severe, linger and have more long-term impacts (Ibid.).

Despite increasing mechanization and robotics, these problems continue (Hendryx, 2009; Ahern and Hendryx, 2012; Naidoo, 2013; Chen et al., 1990; Surzhikov et al., 2001), exacerbated by cumulative trauma disorders which continue to constitute the largest category of occupational disease in mining and often result in prolonged disability (National Research Council, 2007; Donoghue, 2004). Other risks relate to shoulder disorders, ankle and knee injuries, and fatigue-related injuries (Donoghue, 2004; Baker et al., 2003). Outside of the specific context of mining, sleep deprivation, commonly associated with mining, has been associated with heart disease and other chronic conditions. Loud noise, a ubiquitous hazard across all sectors of the mining industry, can result in significant hearing loss, hypertension (Driscoll, 2007; Donoghue, 2004). Exposure to vibration due to vehicles and powertools are risk factors for musculoskeletal conditions, especially lower back and neck injuries (Driscoll, 2007). Large numbers of miners sharing limited underground air creates conditions for tuberculosis and other, often chronic, respiratory diseases (Ogola et al., 2002). Heat exhaustion can be caused by thermal stress related to surface mines with hot ambient temperatures as well as underground mines with high humidity, geothermal gradients in deep mines, increasing air pressure, groundwater and mine water heat transfer, and liberation of heat by mining machinery and equipment (Driscoll, 2007; Donoghue, Sinclair, and Bates, 2000). Miners exposed to radioactive ores or other materials have increased risk of certain cancers (Driscoll, 2007).

Toxic metals such as mercury are commonly used by miners to amalgamate gold and other precious metals, often with bare hands, leading to extremely high body burdens due to both occupational exposures as well as environmental exposures once the metals are discarded as waste and make their way into water, soil, and
the food chain. A number of studies have found high levels of mercury in edible fish stocks near mines, which pose particular risks to children (Eisler, 2003; Akagi et al., 2000), including levels that “significantly exceeded all criteria proposed by various national and international regulatory agencies for protection of human health” (Eisler, 2003).

The direct occupational health effects of mining are compounded by significant environmental health consequences. Of the 30 most polluted places in the world, as documented in the database of the Blacksmith Institute, an international non-profit organization dedicated to solving pollution problems in low and middle income countries, six are mining sites (see http://www.blacksmithinstitute.org/our-strategy.html). One of the more visually obvious effects of mining activities is on the ecosystem, which may suffer soil, water, and air pollution; soil erosion and deforestation; dumping over extensive areas of hazardous mine waste such as ore stockpiles, slag deposits, spoil heaps, mine tailings and waste rock piles that contain potentially toxic and environmentally harmful trace elements into the environment (Bell et al., 2001; Lottermoser, 2007; Romero et al., 2006; Chopin and Alloway, 2007; López et al., 2008; and Fernández-Caliani et al., 2009; cited in Sánchez de la Campa et al., 2011 ). Dozens of studies on all continents have documented proximate environmental contamination from mining communities that often extends into areas of human activity and housing. Common contaminants include mercury and arsenic as well as lead and cadmium, all toxic to humans and causing health problems such as malacosteon, kidney damage, and relatively complex cancers (Ogola et al., 2002; Zhang et al., 2012). Mining also increasing desertification and coastal erosion, which in turn impact issues such as air quality and agricultural production, creating health risks for those who stay and turning others into “environmental refugees” (Hens and Boon, 1999). A study by Fernández-Navarro et al. (2012) found excess mortality rates for general populations in a 5 km zone around mining installations in Spain related to colorectal cancer; lung cancer; bladder cancer and leukemia; thyroid, gallbladder and liver cancers; brain cancer; stomach cancer; and myeloma. The results suggested an association between risk of dying due to digestive, respiratory, hematologic and thyroid cancers and proximity to Spanish mining industries.

Legitimate concerns are often expressed, too, about legacy pollution, including from closed mines, and need for planning to restore areas previously used for mining and prevent ongoing contamination. Mining operations typically leave behind hundreds of acres of open pits; seepage of heavy metals, acids, and other toxic by-products into the land and rivers destroys forests and kills nearby wildlife. Restoring vegetation to mining areas is difficult because the mining process causes organic matter, nutrients, and water to become either too acidic or too alkaline for plant growth (Walker and Powell 2001, cited in Birn et al., 2009). Unfortunately, companies often close mines without such planning and refuse to take responsibility for restoration.
Social environment and health

In addition to the immediate effects on health of the physical environment, mining activity often has enormous consequences for the social environment. Downing reports that “Mining Induced Displacement and Resettlement (MIDR),” experienced by environmental refugees, “is accompanied by what displacement specialists call the resettlement effect, defined as the loss of physical and non-physical assets, including homes, communities, productive land, income-earning assets and sources, subsistence, resources, cultural sites, social structures, networks and ties, cultural identity and mutual help mechanisms (Downing, 2002).

Because most extractive industries work is male dominated (though there are exceptions), the burden of occupational health impacts tends to weight towards males. However, other aspects of mining affect families more broadly, as well as gender relations. For instance, mining operations are often initiated in rural areas, which can trigger a number of social phenomena. For instance, a burgeoning sex trade is often a result of mining or other extractive industry operations. Men often relocate to work at mines, leaving behind families, with significant social consequences (e.g. see South African case study discussion). In some contexts, the impact is devastating; for instance, HIV transmission in Southern African countries has been linked to mining work through the sex trade that often arises around mining communities and the loss of family coherence (Corno et al., 2012).

Transnational mine workers in particular are sometimes subjected to fewer protective social and political rights in their country of work, as can be seen in foreign workers in the oil industry in the Middle East, for example.

Many mine workers suffer the stress and economic insecurity of poor employment conditions, which may arise in a number of ways and have various health impacts. Many mining companies in South Africa, for instance, often have a regular practice of hiring migrant workers from other communities rather than locals, even recruiting from other countries including Swaziland and Lesotho. This strategy reduces worker organization and demands, since “outsiders” generally know few people in the community and often have a lot to lose if they are fired. Often, these workers are particularly vulnerable, as tensions arise with local residents over employment opportunities or social clashes. A more recent trend is that large mining companies in many countries are sub-contracting the hiring process to local businesses, which legally distances them from responsibilities for health harms or abrogation of rights. Recently, the death of 8 mine workers in Turkey, hired by a sub-contractor, made international news as their deaths were labeled “murders” due to the working conditions they were subjected to. This intentional “legal” distancing of companies from workers speaks to a larger problem of a lack of a sense of responsibilities for workers’ health and wellbeing.
Mining has also been widely linked to both individual and personal violence and also to social and structural violence. Reports of violence against resistant communities as well as mine workers themselves are commonplace, sometimes perpetrated by companies, sometimes by governments. The Observatorio de Conflictos Mineros de América Latina (OCMAL) has documented 182 conflicts in Latin America related to 190 mining projects, affecting 258 communities; 6 conflicts are transnational (see figure 1 below). Peru, Chile, Argentina, Mexico, and Brasil lead the list, all with over a dozen ongoing conflicts each (OCMAL, 2012). Colombia also ranks high in the number of conflicts, and particularly high in the number of killings related to disputes about land use, often related to mineral extraction (Global Witness, 2012a). While OCMAL has helped increase transparency and documentation of the widespread problem in Latin America, there is no reason to believe violence is particularly pronounced in Latin America compared to other areas of the world, despite a dearth of organized monitoring. Other countries outside the region for which Global Witness has documented high numbers of killings over land disputes, for instance, include the Philippines, Cambodia, DRC and Indonesia, but they note that there is no monitoring system to track such violence (ibid.).

Conflicts between miners and resistors over control over land and resources is often exacerbated by companies that fuel the violence, sometimes resorting to subcontracted security agencies to distance themselves legally as well. As an example of corporate violence, Canadian-owned Barrick Gold, the world’s largest gold mining company, was linked to the repression of dozens of alluvial mine-workers (small-scale diggers) and anti-mining critics in Papua New Guinea, Tanzania, and Peru, as well as to thousands of forced evictions of small-scale mine-workers and residents. Due to the negative track record of Barrick and other mining companies in desecrating sacred aboriginal lands and violating indigenous human rights, in March 2007, the UN Committee on the Elimination of Racial Discrimination called upon...
Canada to improve regulation and ensure accountability of its transnational mining corporations operating on indigenous lands abroad (CorpWatch 2007, cited in Birn et al., 2009). Nevertheless, reports of corporate repression continue in countries across the world, including by Canadian and other companies.

In addition to repression by companies, criminalization of protests against mining is an ongoing concern across continents. In Latin America, criminalization is a growing problem in Ecuador, Peru, Guatemala, Honduras, Mexico, and other countries. There are an estimated 200 people in Ecuador alone facing criminal charges, some including terrorism and sabotage, as a result of protesting against mining projects. Protesters also face threats of violence including murder and state repression sometimes leading to death. Of significant concern, there are increasing reports of targeted assassination of environmental defenders throughout Latin America (.

It is difficult to see the South African government’s recent massacre in of 34 protesting platinum mine workers, and the lack of meaningful international response to the event despite its wide media coverage, as anything other than tacit approval for such action.

Since 1997 the world’s deadliest conflict has been raging in eastern and southern Congo linked to Cold War alliances and factions, with local and international companies fighting over control of lucrative gold, diamonds, and coltan deposits. Four surveys (including one with 19,500 households in 750 clusters) conducted in the DRC determined that 3.9 million people died due to the conflict between 1998 and 2006 (Roberts 2000; Roberts et al. 2001; Coghlan et al. 2006; International Rescue Committee and Burnet Institute 2007, cited in Birn et al., 2009).

**Economic Benefits: questioning claims, reciprocity and balancing distributions**

Despite all of these documented health harms, mining is often defended on the grounds that there are important economic benefits that accrue to local communities. However, companies are rarely held accountable for meeting these projections. Morrice and Colagiuri (2013) claim that “the vast majority of mining industry-sponsored reports on coal mining over-emphasise perceived economic benefits and ignore negative social consequences.”
Mining companies will often incorporate into their proposed mining ventures impressive projections related to employment, local economic development, improved living conditions, and increased opportunities. While few studies have specifically compared projected community benefits and harms with realized community benefits and harms, many advocates anecdotally cite a gap between promises made and promises realized. One study by Lockie et al. (2009), which was, interestingly, industry-sponsored, used social impact assessment to follow a community five years and nine years after a coal mine was opened in Australia. The issues examined included demographic changes, housing, social integration, traffic and fatigue, business opportunities and constraints, cultural heritage, and opportunities for indigenous people. Morrice and Colagiuri (2013) report that:

“The first analysis in 2003 found that many of the mining-related social impacts revolved around failure by the community to capture positive benefits, in particular economic benefits. Compounding this, rapid demographic and social changes occurred, which undermined the ability of the community to generate alternative economic and cultural capital to assist in enduring future mining sector downturns. The cumulative impact of multiple mine expansions and developments from 2003 to 2006 saw the magnification of these issues and the emergence of several acute social impacts. These impacts included severe shortages of skilled labour in other industries, reduced access to and affordability of accommodation, increased road traffic and fatigue-related road accidents, increased pressure on emergency services (particularly those provided by volunteers), and increases in criminal and other anti-social behaviours.”

At the level of national impact, claims of public benefit again fall short. For instance, Richardson and Denniss (2011) found that around 80% of the profits from Australian mining leave the country (cited in Morrice and Colagiuri, 2013). These companies paid an average of 13.9% in corporate taxes, compared to the national 30% personal tax burden, and received substantial taxpayer-funded subsidies. Similar findings were documented by Rosewarne and Connor (2012). Morrice and Colagiuri conclude: “These figures reflect the often hidden monetary costs of coal mining, over and above the social and health costs incurred. These estimates serve to illustrate that the cost burden of coal mining falls disproportionately on society, while the bulk of the benefits accrue largely to the industry owners, executives, and investors.”

An even more concerning proposition regarding the impact of mining on developing countries’ economies is reported by Whitmore, who suggests that mining may have a negative effect on economic growth, or at least no benefit to the poor, in mineral-exporting countries. As evidence: poverty (people living on less than $1) in such countries rose from 61% in 1981 to 82% in 1999 (OXFAM America, 2003), and that these countries were among the poorest economic performers between 1960 and 1993 (Auty, 1998).
In fact, these inequitable structures for international financial flows are creating tremendous harm to countries’ development. Consider the observation of Global Witness:

“In 2009, Africa’s oil, gas and minerals exports were worth roughly five times the value of international aid to the continent ($246 billion vs $49 billion). However, instead of their wealth being used as a building block for development, countries rich in natural resources, such as oil, gas, timber or minerals frequently end up blighted by inequality and bad governance. In spite of increasing international recognition of this phenomenon – often referred to as ‘the resource curse’ – governments, multilateral institutions and companies have all failed to do enough to tackle it” (Global Witness, 2012b).

If the economic and social benefits claimed are not real, or not realized, at either the local or national levels, what are the implications for social justice? Where and how should the principle of reciprocity be applied?

But it is difficult to comprehend the suffering all of these studies and numbers represent in the lives of mine workers and mining communities. Let us turn now to a specific case of a community whose culture has been deeply embedded in mining for many years.
Report from South Africa

"We must remember the history of mining in South Africa, of cheap black labour, racism and exploitation. This is the model for the rest of Africa too. If we look at Marikana as a microcosm of South Africa and really of mining in Africa, we witness growing discontent, growing inequalities, a widening gap between rich and poor, and all the resultant problems of poverty. The LONMIN workers are victims of structural violence in our society. This is informed by low wages, very bad living conditions, bad nutrition, health and safety problems, HIV and AIDS and no hope for a better life."


"Approximately 69 000 miners died in accidents in [South Africa] in the first 93 years of this century and more than a million were seriously injured. In 1993, out of every 100 000 gold miners, 113 died in accidents, 2 000 suffered a reportable injury, 1 100 developed active tuberculosis and of these 25 died; in 1990 about 500 were identified as having silicosis."

– Laurie Flynn - Submission to the South African Truth and Reconciliation Commission. 1998

"Few countries in the world are as renowned as South Africa for the sharp contrast between extravagant wealth and luxury on the one hand, and extreme poverty and destitution on the other."


Introduction

The health, socio-economic and environmental impacts of mining occur throughout every phase of its life cycle, from the cradle of exploration to the grave (and
beyond) of abandoned mine shafts, disowned mountains of tailings\(^1\) dams and lakes of polluted water. Overwhelmingly, the products of mining are sold into the commodities exchanges of the global capitalist system, physically, and in every other way, remote from the living and working conditions of the workers who produce these commodities. Our case studies of gold and platinum mining in South Africa are exemplars of this process, glimpsed through the experience and words of affected communities and workers. The direct experience of a handful of the interviewees can only reflect a small part of the total reality, but their stories reflect both their dire present circumstances and the ghosts and memories of the past.

The life cycle of mining starts with exploration for exploitable deposits, often preceded by the forced removal (or forced sale) of those who own and/or occupy the land, followed by the construction of mining infrastructure, then the ‘productive phase’ of the mining of the ore and the extraction and beneficiation of the metal. The final closure of an exhausted mine theoretically includes the rehabilitation of the land, but this rarely occurs. Abandonment is more the norm, leaving a legacy of vast quantities of solid waste in the form of tailings (slimes) dams and waste rock, lakes of polluted water and a devastated environment, both above and below ground.

Health impacts occur during every phase of mining. The health impacts of the displacement of rural communities at the mining site, whether subsistence farmers or farm workers is rarely recognised. In South Africa, historically under colonial conquest and Apartheid, and through to the present under the neoliberal economic paradigm that is beholden to mining interests, this thirst for cheap migrant labour is slaked by destroying the livelihoods of distant rural communities, through acts of omission and commission (Terblanche S, 2002). In the platinum belt, farms bought through forced sales resulted in the eviction of farm workers into squatter-camps. The newly acquired farms are enclosed with razor wire and vigorously patrolled by private security personnel, excluding workers from still-arable land and denying them access to crops left to wither through neglect or under the impact of air polluted by smelter emissions.

The exposure of large numbers of workers to hazardous working and living conditions (high dust levels, extreme heat, ergonomic risks, safety hazards and crowded single-sex hostels or squatter camps) result in a plethora of mining-related diseases that are largely unacknowledged and certainly under compensated (Murray et al., 2011).

The mining, metal extraction and beneficiation phases are accompanied by air and water pollution, the generation of solid waste deposited on tailings dams and waste rock stockpiles, the abstraction of vast quantities of water and the use of huge quantities of energy (Norgate and Haque, 2012; Glaister and Mudd, 2010), all with direct or indirect health consequences. A concomitant legacy is that of huge

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\(^1\) Ore is crushed, milled and processed to extract the gold or platinum. The ‘tailings’ are the waste residue from the extraction process, usually dumped as a slurry (solid/liquid mixture) in an embankment dam and left to drain and dry out.
numbers of unemployed workers and disrupted (mainly rural) societies, and a burden of disease and poverty suffered by both current and former mine workers and successive generations of their families. A much larger population is likely to be affected by the legacy of a devastated environment (Durand, 2012), for decades and centuries after mining has ceased.

The wealth generated through the mine’s productive years accrues mainly to the owners and shareholders, invariably located far away from the site of mining. The meagre wages that accrue to workers are inadequate compensation for their output or for the brutal conditions of work. An ineffective, inadequate and inequitable compensation system for work injuries and death at work or for mining related diseases compounds the social injustice (Ehrlich R. 2012; Ladou J. 2012). Woefully inadequate mine closure funds mean that society as a whole bears the burden and costs of the polluted and damaged environment.

What is the balance sheet of the burdens and benefits – health, socio-economic and environmental – of mining, judged over its whole life cycle?

**Gold mining in South Africa (SA)**

Gold has been mined in SA for more than 120 years, producing a cumulative total (to 2010) of about 51 200 tons (derived from Short and Radebe, 2008; Chamber of Mines, 2011), about 30% of the cumulative world production (to 2010) of 157 000 to 180 000 tons, about 85% of which remains in circulation (Norgate and Haque, 2011). For several decades South Africa was the largest gold producer in the world, with production peaking at about 1000 tons in 1975, although declining to less than 200 tons/year in recent years. Newly produced gold is used mainly for jewellery (46%) and as an investment (37%), and other uses (17%) (Chamber of Mines, 2010). In the past and during the current period, gold has played a crucial role in the world financial system (World Gold Council, 2013). The South African mine worker, drawn from the rural areas of South Africa as well as surrounding countries – Mozambique, Malawi, Lesotho, Zambia, Zimbabwe and Angola - can therefore be said to be a world historical figure.

At the current gold price of about US$1 700/oz, the cumulative gold production of 51 200 tons may be valued at 2.8 trillion US$, about seven times South Africa’s current annual Gross Domestic Product. Yet what residue remains of this enormous wealth extracted from the soil and toil of hundreds of thousands of workers?

Employment in gold mines peaked at 531 000 in the 1985 (Short and Radebe, 2008) but declined to about 157 000 in 2010. An ex-mine worker is typically unemployed, poor, suffering from one or a combination of mine related diseases (TB, silicosis, HIV-AIDS and/or physical injuries), with a shortened life span, a poor quality of life, surviving on a government pension or grant (if SA) or, in the absence of a pension, with the support of his family.

South African gold mines are among the deepest in the world, with a depth of up to 3.9 km (SPG Media Group, 2013). Underground working conditions are arduous if not brutal. Rock face temperatures are up to 55°C, humidity levels are high and
poor control of exposure to dust, coupled with poor health surveillance systems, give rise to a high incidence of dust related disease.

The recent high price of gold and development of new extraction technology have enabled the increased re-mining of tailings dams. This process increases the emission of wind-blown dust from tailings dams and the dust exposure to surrounding communities.

The burden of disease bequeathed by the gold mining industry is best illustrated by the following:

"Importantly, the proportion of black gold miners found to have silicosis at autopsy increased from 3 per cent in 1975 to 32 per cent in 2007. [Under apartheid black mine workers were hardly ever diagnosed with silicosis.] Biologic and social factors combine to create a ‘perfect storm’ for the interaction among silicosis, TB, and HIV. Silicosis substantially increases the risk of TB to a magnitude similar to that of HIV infection. Importantly, silica exposure is associated with TB even in the absence of silicosis and the increased risk is life-long. Risk factors such as migrancy and single-sex compounds increase high-risk sexual behaviour, and thus HIV rates, which are close to 30 per cent among these miners. The TB risks of silicosis and HIV infection combine multiplicatively. Consequently, the highest recorded rates of TB worldwide have been reported in South African gold miners. Mortality from TB is higher than that from mine accidents. The prevalence of TB in gold miners has increased from 806 per 100 000 in 1991 to 3821 in 2004. HIV prevalence rose from less than 1 per cent in 1987 to 27 per cent in 2000" (Murray et al., 2011).

Social disruption caused by the labour practices of the industry

Despite some improvements in the working conditions and impact on families for South African mine workers over the past decades, conditions remain deplorable and the toll on families is massive.

“Although well below the half million employed in the 1990s, South African gold mines still employ approximately 160 000 people. The industry is characterized by male cross-border and internal rural-urban migrants who leave their families and live mostly in single-sex mining compounds, returning home for variable periods. These social circumstances and stabilization have contributed to serious interrelated epidemics of silicosis, tuberculosis, and HIV infection in miners, in surrounding communities and in labor-sending regions. Post-apartheid reforms deracialized legislation, but race remains an important determinant of occupation, salary, housing, and disease burden” (Murray et al., 2011).
The legacy of environmental impacts of mining in the world’s largest gold and uranium mining basin, with the extraction of more than 50 000 tons of gold (and more than 80 000 tons of uranium) over 120 years include about 400 km² of mostly unlined mine tailings dams and 6 billion tons of tailings containing 430 000 tons low-grade uranium (Mine Closure, 2008). In the Witwatersrand Gold Fields region the growing threat of flooding of abandoned mine voids and the decanting of the resultant Acid Mine Drainage into groundwater resources, used for agricultural and human consumption, has been raised with increasing urgency by NGOs and academics (see, for example, Liefferink (FSE), 2012; Durand, 2012). The SA government finally appointed an inter-ministerial committee to report on the matter (DWAF, 2010), although a response commensurate with the magnitude of the problem is still awaited.

Because of the low grade of South African gold ores (about 5.2 g/ton of ore in 2006 declining to about 2.80 g/ton in 2011), at the latter grade about 500 000 tons of ore have to be crushed and milled to produce a ton of gold or about 16 tons ore per ounce of gold. (Chamber of Mines, 2012).

Additional environmental impacts include electricity consumption (average 140 GJ/kg gold), water usage (average 700 m³/kg gold) and CO₂e emissions (average 12 t CO₂-e/kg gold) (Glaister and Mudd, 2010). The South African government has been singularly ineffectual in holding mines past and present to account for the environmental damage caused, including radiation risks, caused by their activities (van Eeden et al, 2009).

**Gold Mining Interviews**

We feel it is critical to hear directly from miners and those living in mining communities in order to convey the depth of difficulty this population faces on a daily basis: of extreme poverty, multiple co-morbidities driven by mining and the social conditions surrounding mines, the social damage and fear they experience, and the lack of pathway out. We interviewed nearly three dozen individuals in four mining communities in Gauteng and North West Provinces of South Africa in January 2013. Interviewees included mine-workers, ministers, health workers, and others. We talked to the disabled and to retrenched workers, community residents experiencing illness due to gold mine dust, trauma counselors and community workers. We hope these testimonials help to paint a realistic, true picture of mining in contemporary South Africa.

**Interviews with TUDOR Shaft Community Members - 17 January 2013**

About 2000 residents continue to live in shacks on a gold mine tailings dump. A recent soil sample analysis requested by the Federation for a Sustainable Environment showed elevated levels of aluminium, arsenic, cadmium, cobalt, copper, mercury, manganese, nickel, zinc and uranium. An independent international expert in 2011 found radiation levels 15 times higher than the regulated level. He advised on the immediate relocation of the community. The
National Nuclear Regulator of South Africa confirmed the grounds were indeed radioactive and Parliament recommended relocation of the community in 2011. The majority of them are still living here. No health outcome studies related to the exposure of the community to high levels of radiation is as yet available.

Here is what community members had to say.

“We have been living here for up to 10 years. Our children are sick from birth with flu and chest problems. I have to take my 9 month old son to the clinic almost every week with a runny nose and cough. The water is not good and there is only 4 taps for all of us. Children commonly have vomiting and diarrhoea.

Toilets are broken and never clean and too few for all of us living here. Itching of the skin is common and worse for children. TB is getting worse. The dust from the new mining on the dumps makes coughing worse. We attend the clinic but the treatment for TB is not helping anymore.

We have no electricity for cooking. Cooking with paraffin and coal is bad for the flu and dangerous for fires. In winter it is worse when it is very cold.

We have toyi-toyi’d [protested] and have attended many meetings. We get promises for new stands but we are still here. Our story have (sic) been in the newspapers. A few families have been given houses near Kagiso. This is the start of a new year and we are hopeful for new homes.”

An elderly woman next to the TUDOR dam explained that mining now started right next to her home. She worked for about 45 years as a domestic worker and now lives next to the mine dumps. She is suffering from high blood pressure and has very poor eyesight. She has no running water in her home and no electricity. The future is uncertain. No-one has come to talk to her about the new mining or the relocation. During the interview we heard the deafening sounds of nearby mine blasts.
Interviews with disabled and retrenched gold mineworkers in Johannesburg - 17 January 2013

The ex-mineworkers are unemployed, they have no income, they are sick and have limited access to public health facilities. Several of them had papers indicating the abysmal retrenchment packages they received. They are desperate for some form of employment. They have a strong sense of injustice and betrayal and are looking for help to obtain proper compensation for the injuries they sustained. Several have signed up for either the international or national court cases where human rights lawyers have filed lawsuits against Anglo American SA in the UK and against 30 gold mining companies here in South Africa. Combined they represent about 20,000 ex-miners. They accuse the gold mining companies of neglecting to protect gold miners from serious lung diseases particularly silicosis and silico-tuberculosis. The court cases will take time and many have already died.

An elderly man shared his retrenchment papers. He lost 4 fingers in an underground accident. He says he was not compensated. The paper shows he was retrenched after 22 years of underground service and received R11, 000 (about 1,400 US$).

They would like to have medical examinations to enable them to resubmit compensation claims and to get proper treatment.

Interviews with Community members exposed to gold mine dust in Johannesburg - 18 January 2013

We were presented with health records including X-rays of community members who live within a few hundred metres of several enormous gold mine tailings dumps. They complain of chronic cough, sleepless nights and tight, wheezing chests. Their conditions have significantly worsened since new mining of the tailings dumps have started. There is dust everywhere in their homes. Daily treatment is required to breathe properly and some require steroids to reduce the tightness of their chests.
They have made many attempts to address their concerns with the mining companies but it is an ongoing struggle over many years with no success.

**Platinum mining**

The platinum mining industry employed much of the same social and economic practices of exploitation and dispossession described above for gold mining. South Africa is the world’s largest producer of platinum, accounting for about 75% (151 tons in 2011) of world total supply; about 38% of platinum is used for vehicle emission control devices (catalytic converters), 31% for jewelry, 25% industrial uses and 7% for investment (Johnson Matthey, 2013a). In 2011, Amplats, Impala Platinum and Lonmin, the three largest producers, produced a total of 158 tons in 2011, and employed a total of 160 000 employees (Amplats Annual Report, 2011; Implats Annual Report, 2012; Lonmin Plc Annual Report, 2011).

Over the last decade the platinum price increased from US$474/oz (January 2002) to current $1586/oz (December 2012). The value of the cumulative production of 3900 tons for the years 1975 to 2012 (Johnson Matthey, 2013) is, at the December 2012 price, about US$200 billion. Average platinum grades are low, about 4.4g/t thus about 18 tons of ore have to be processed to produce an ounce of platinum, about 10 tons per ounce of total platinum group metals (PGMs), or about 58 0000 tons of ore per ton of platinum (Glaister and Mudd, 2010). The environmental impacts include high waste rock and tailings generated (about 98% of the ore becomes tailings), high electricity consumption (average 175 GJ/kg PGM), water usage (average 400 m³/kg PGM) and CO₂e emissions (average 40 t CO₂_e/kg PGM) (Glaister and Mudd, 2010).

**Interviews with community workers and mineworkers in platinum mining areas - 16 January 2013**

Land ownership is a major concern in platinum mining communities. Land was taken away from the African people during colonisation and apartheid. Communities are not consulted when new mine shafts or open cast mines start up. We are relocated at the last minute to barren sites and facilities much poorer than we had before." We are victims of mining relocation in pursuit of the white gold called platinum." The mine provides inferior zinc housing, few communal taps and no electricity. No refuse removal or adequate sewage systems are put in place. Many toilets overflow and create major health hazards, especially for children.

Through outsourcing and contract labour the mining industry cuts health costs and transfers the costs to the public sector, to workers and to communities. Thousands of workers at the mines are contract labourers. The mine does not provide health services for contract workers. Wives and families join workers at the mines. A public clinic meant for about 1000 local people have to address the needs of up to 8000.

Some of the comments of mine workers and their families include the following:
“Mining thrives on cheap labour! They do not employ local community members. Unemployment is rife. They organise for workers to come here through the apartheid migrant labour system.”

“Communities have no electricity and have to use paraffin. One young woman was severely burnt. The stove was supplied by the mining company. Endless problems with paraffin cooking and some houses burnt down.”

“Work clothes, heavy with chemicals are brought back to our homes. Dusty work overalls are washed by non-working family members. Broken work helmets are put into the fire and the plastic and chemicals pollute the air.”

“The underground air is sick because of frequent blasting. The dust and heat is too much. They sometimes blast while we are still underground. Supervisors continue to move us around underground. We may have learnt how to better protect ourselves in one environment just to be moved to an unknown area.”

“The dust causes a lot of chest pain. When we go to hospital they tell us we have TB and HIV. At the mine hospital we are not treated well. Staff want to know which trade union we belong to. Irrespective of your ailment - stomach-ache, chest pain or backache - you all get the same treatment. Disposable ear plugs meant to be used only once are given to use of one month. These give no protection after 3 days. Many workers become deaf. Rock drillers cannot hear the moving equipment such as locomotives because of the noise and accidents happen.”

“We have no knowledge of health and safety training programmes by the mine and no knowledge of risk assessment reports or of medical surveillance reports. We have no knowledge of any efforts by the mines to prevent our ill-health.”

“Mine and environmental inspectors told us they have no capacity. They do reports from their offices in favour of the mine. How can you do an inspection sitting in an office? The environmental and mining laws are not implemented. We see no monitoring and no enforcement. The contract labour system worsens health and safety.”

“We have been exposed to terrible violence and many of our fellow workers have died. Death is with us every day underground.....”

“The mine bosses are so greedy.”

“They are so evil and do not care whether we are dead or alive.”

“They are controlled by greed.....”
Interviews with 10 Trauma Counsellors and Community Workers - 16 January 2012

Following the Marikana Massacre the Trauma Centre was established. Training and counselling sessions take place in the local church. We met 9 women and a young man who were trained as counselors.

HIV and AIDS and TB amongst are amongst the biggest health problems the communities face. In addition they come across asthma, sinusitis and many eye problems because of the dust and chemicals from the smelters and the dumps. "The dump smell is so bad especially in the afternoon that you cannot even open your door." There is still stigma and denial linked to HIV and TB. Very difficult to deal with the denial as workers fear for their jobs. People often only get treatment when they are too sick to benefit from it.

Blasting in the mines take place on a regular basis - "you can feel the whole house shaking and cracks appear in the walls - it is very traumatising...."

Other perspectives from the workers include the following:

“The mine smelters burn day and night. The smoke affects our eyes and lungs.”

Sex work is common - "Young girls go to town just to get something to put on the table." There are problems with teenage pregnancies. Young women sleep with older men. Men tend to leave them when they are pregnant. This has resulted in some suicides.

"Suicide here is very high. For young people there are no jobs and they lose hope. What can I do for my family? If I cannot help my family with something to eat I feel useless.”

“A young 24 year old man burnt himself to death with paraffin last week. I saw that ball of fire and I also saw the remains. He was unemployed and was trying to build a business. Each morning it was broken into. He had to start afresh. His father is a mineworker on contract which means a very low income.”

“Another young man hanged himself. He wanted to further his studies and his parents could not help because of low wages. He passed grade 12 with flying colours but unfortunately no financial help...."

“We have provided career guidance to 18 youths from different schools who studied mathematics and science. We applied to the mines to support these very promising scholars with bursaries. We have had no response from the mines.”

Since the massacre many people do not sleep well at night. There are talks about retrenchments. Women worry about income from the men (migrant workers) who are going home or who are being retrenched. Many people are developing hypertension. "At work we are having a sick nation."
“Hypertension is a common problem and when people have strokes we as counsellors support them with feeding and movements of the paralysed arm and leg. Very hard work.”

"Drilling operations causes deafness. Those affected may get some compensation and then the mine gets rid of them."

Health and Safety information and talks are mostly in English and not accessible to most workers. The toolbox talks on health and safety are usually done by supervisors who also unfairly discipline workers. This is not a good learning environment.

There is a total lack of recreational facilities for adults and children. They swim in water that accumulated in an abandoned open cast mine. No signs erected to warn of the dangers. An 8 year old child drowned in November 2012.

“We would like to do counselling on a full-time basis. We would like to have a special trauma centre with computers and other facilities. We would like to get more training and an allowance for our work.”

**Interview with Reverend Sakhumzi Collen Qiqimana - 16 January 2013**

"I am Reverend Sakhumzi Collen Qiqimana, resident pastor of Wonderkop, Marikana for the past 7 years doing ministry in this place.

We acquired the Trauma Centre just after the Marikana Massacre but it does not focus on the massacre only. Any trauma, any pain, can come to the Trauma Centre.

There are men and women who are afraid to go to clinics and hospitals. They are traumatised because of HIV and AIDS. At the clinic people with HIV and TB are treated in a different section. They are afraid because of that stigma. When you hear about them they are already dead! They could have been helped, they could have been counselled. This is a critical issue for us. In this mining area we find that those who are HIV positive, also have TB and are quick to die. The places where they work are making it difficult to be healed.

I was traumatised myself. I have a younger brother who came to work here. After only one year of work he found out he had TB and he died. We realised the place he was working in was dangerous for him. There was a lot of dust. He worked in a place where they load the platinum underground. So from that time I take it upon myself to search and help and counsel people like him - those who are afraid to go to clinics.
We have children who killed themselves last year. Young children from primary and high schools. The church has adopted about 20 children from these schools and buy their school uniforms.

We have a big problem of Child Headed Families. Amongst the 20 children we support for school some have lost both parents, some 1 parent and for some the parent have no jobs. Some young women sleep with older men for money because they are taking care of their siblings.

We are providing information on how to get out of debt and was successful with five families. We saw a change and healing in their lives. We need people with financial knowledge to provide support on this issue.

Entertainment facilities are non-existent for adults and children. The only exception is that mine management ensures there is a bar in every hostel. Children have no place to play. Young children drowned last year in an unrehabilitated open cast mine now filled with water. There is no swimming pool.

Workers are traumatised by the violence we encounter but they are afraid to show as they are men. They talk about the trauma on the mountain. Those injured on the mountain have not received any salaries since the tragedy.

I spoke to management about the widows of the miners who died on the mountain. They said they will go to each and every family in Eastern Cape, Lesotho or elsewhere and sort out schooling for the children. I asked what about food since they do not need schooling only.

As a man of God I believe that things will get better. That the Lord will help us. But only if we really have a willing management who participate and help workers and communities. Only then will things be well. When people care about those who work for them. Only when people are not just looking for the power of a man but also looking at the social issues........then we can have a better community."

**Some conclusions and suggestions for the way forward**

Very low wages coupled with the migrant labour system and systemic exploitation characterise the mining industry from its inception. Decent work, job opportunities especially for young women and men and appropriate wages will go a long way.
towards addressing the most pressing problems of grinding poverty. The recent strikes are merely part of the quest to earn a living wage.

The extractive industry should be compelled to comply with national and international regulations and standards to prevent the exposure of workers, communities and the environment to toxic and disease causing hazards. The overall focus should be much more on prevention.

The mines should pay into an Independent Fund on which local communities are fully represented to ensure the fund is used for jobs and to redress the major impacts of gold and platinum mining, perhaps similar to the Asbestos Relief Trust (see Appendix 1 for description). The Truth and Reconciliation Commission referred to the need for a wealth tax.

An international spotlight should focus and assess, with their full participation, the working and living conditions of women in mining and mining communities.

The woefully inadequate compensation system which deny compensation for pain and suffering and which still protects mine bosses from being sued by sick and injured workers (in spite of a recent court ruling) should be changed as a matter of urgency. This will assist in holding the mining industry accountable and will do a great deal to prevent work injuries and diseases. This constitutes one important component of prevention.

Government Departments to administer the compensation system in a much more efficient and effective manner as a basic service towards greater social justice and to help redress the gross inequalities of the past.

Physical insecurity, threats of violence, and actual violence are major health hazards resulting in physical and psychological health problems. These are major concerns for mineworkers and for mining communities and should be addressed as a matter of urgency.

The mining sector externalise the health and environmental cost of their industries to the public sector, to workers and to communities. They deny and suppress the evidence demonstrating the causal relationship between exposure to mining hazards and adverse health outcome. They deny the huge contribution that the mining industry makes to the high burden of disease in the public health sector. These include silicosis, silico-tuberculosis, HIV and AIDS, water-borne diseases, numerous cancers related to radiation and chemicals, noise induced hearing loss, dermatitis in all its forms, heat stress, asbestosis and asbestos related cancers, reproductive health problems, occupational asthma, bronchitis, neurological problems, repetitive strain injuries, work related stress and the numerous ergonomic problems of mining.

Health workers, globally, are not effectively trained to recognise, diagnose and prevent occupational and environmental diseases even when they work right next to the mines and factories. A great opportunity in PREVENTION is lost.
The all important Occupational Health and Safety Programmes of both the World Health Organisation (WHO) and the International Labour Organisation (ILO) have been systematically starved of adequate resources. These programmes have become smaller and less effective. Many think this is in the interest of the corporate world. Strengthening these programmes will greatly contribute towards the achievement of equal global international standards for all countries in health and safety and the environment.

The mining houses should be challenged to go beyond mere corporate social responsibility which they trumpet about, and to invest in young women and men in mining communities through bursaries for studies of their choice in secondary and tertiary institutions.

The systematic, ongoing and equitable sharing of knowledge about human rights, constitutional rights, environmental rights and workplace rights across countries and continents with and amongst communities will go a long way towards empowering those exposed to systemic exploitation and dispossession.

**Governance at the national level**

While national governments ultimately bear responsibility for preserving the public interest and public health over mining interests, a variety of political and economic forces, often with complicated historical roots, impede this protecting role. Let us consider the case of Canada, where two-thirds of the world’s mining companies are based. Canada is not alone in terms of its cultural relationship to mining issues, and the influence of corporate power, within and well beyond the country’s borders (see Morrice and Colagiuri, 2013; Blakeney and Marshall, 2009; Riva et al., 2011). However, its history and contemporary relationship to mining is instructive in demonstrating a seemingly acceptable practice of governance that is content with private profits, if not profiteering, over widescale human rights abuses and the human suffering that follows.

**Canada**

Transnational mining corporations have been able to take advantage of lax global regulation governing their activities, but they also need to have a home base from which to launch their international ventures and protect their profits, preferably a base with minimal domestic oversight. Canada stands out as a “safe haven” (Deneault & Sacher, 2012) for a majority of the world’s mining companies, which benefit from a loose fiscal, legislative and cultural regime that highly favors mining interests both domestically and globally.

**Political and cultural context**

As with most colonies, the prime objective of Upper Canada, Lower Canada, Territories, Quebec, etc was to extract and appropriate resources for the benefit of the metropole – and the burgeoning expansion of British and French capitalist interests. This process involved the dispossession of indigenous lands to wrest
control of natural resources, ranging from fur to forestry, and extending to subsoil resources. Mineral exploration, beginning with gold, began in earnest in the 1870s in Canada, with prospecting booming into the time of the Great Depression (Cranstone, 2002). It was precisely at this time (and until 1930) that the eleven major treaties governing relations between indigenous nations and the Canadian state were signed. These treaties required indigenous peoples surrender their rights to the land, other than for their traditional subsistence activities, for the benefit of the British Crown. There is a commonly understood principle however that the Crown has the duty to consult indigenous peoples for use of land that may affect their traditional activities. This principle is often ignored. This colonisation process was accompanied by severe political and cultural repression, and altered the way indigenous people related to natural resources through the imposition of a coercive commercialism on all interactions with the environment.

Though the British and French colonial empires are no more, mining economic imperialism has become ingrained in Canada’s natural resources approach. Since the early 20th century, the Canadian government used mining to finance military adventures and support the nuclear arms race (Cranstone, 2001), sealing the alliance between successive Canadian governments and industry. Canadian schools of mining and mining engineering are well-respected, and Canadians have noted expertise in geology and earth sciences. Canadian universities not only support extractive industries through research and education, but also receive philanthropic donations which may threaten academic freedom and the ability to interrogate Canadian society’s mining-friendly political environment (McQuaig and Brooks, 2010).

Recent developments have thrown this history into sharp relief. The decline of the manufacturing base since the 1980s has resulted in a search for alternate revenue sources. Current Canadian economic policy thus focuses on a return to Canada’s roots – its history of colonial subjugation – to extract natural resources at the peak of their boom cycle, no matter what the cost to local ecosystems or communities. This approach is evident in the example of carbon-intensive tarsands exploitation in Alberta (as well as renewed offshore drilling) but also in forestry (The Conference Board of Canada, 2013), asbestos (finally about to be abandoned, but not before the federal government offered credits for its resurrection) (CBC News, 2012a) and uranium (World Nuclear Association, 2013) industries.

A shift in political power has accompanied the economic transition (CBC News, 2012b). The aims of the resource economy have become dominant in the political agenda, and the government’s role is to facilitate its business. In many ways, Canada is now moving towards becoming a rentier state, where political power is sustained by the derivation of profit from key resources. The state tries to shape the external environment in order to continue to receive the rent, or the revenue from the resource. Canada’s obstructionism on greenhouse gas emissions, or as noted below, its attempts to facilitate mining could be construed as part of this manipulative agenda.
In this manner, not only are international consequences important, but there are serious domestic repercussions as well. Workers are less likely to be seen as inherent to a productive economy when mechanical extraction dominates, and a recent series of anti-bargaining interventions on the part of the Canadian government are a worrisome trend (Ontario Ministry of Labour, 2012). Environmental law in Canada has been drastically weakened in an effort to reduce “red tape,” with public consultation in particular decimated (Scoffield, 2012).

In order to enhance the capacity of offshore activities of Canadian mining companies – where the brunt of the work is done, away from the scrutiny of the electorate – the Canadian government has begun to use public funds to support these companies abroad. The Canadian government has now released international development aid for non-governmental organisations to assist communities in adjusting to the activities of mining corporations, to mitigate their negative consequences (The Current, 2012). These funds essentially use public funds to facilitate the private profit of mining company shareholders and executives, improve their “corporate social responsibility” profiles and to repress dissent. As diplomacy is used to support the needs of mining companies too, crucially, democratic practice can also be damaged from the excessive reliance on a resource economy. Canadian state officials have accused environmentalists of being radicals, or influenced by foreign agendas, working against national interests with the interests of an industry now identified as a national priority (Ljunggren, 2012).

Various legislative attempts have been made in the Canadian parliament to try to bring mining corporations to account for abuses abroad– although sometimes toothless in order to not offend the powerful mining lobby, these efforts have been nonetheless defeated. Even opposition parties may be unwilling to take a stand against corporations that may finance their future electoral successes. Canada thus provides extensive legal cover for corporations engaged in deleterious activities abroad, since there is no mechanism to prosecute them, nor is there an enforcement agency to oversee their activities.

**Economic and fiscal context**

It is not only political and cultural practices that have ensured the hidden power of the mining industry. Deliberate economic and fiscal choices have also ensured that extractive companies based in Canada are financially sheltered during the entire process from exploration to exploitation of a mineral.

Estimates suggest anywhere from 60-75% of mining companies in the world are based in Canada, (with some 60 % listed on the Toronto Stock Exchange (TSX)) although some never have had any operations there. This figure may come as a surprise since many of the big mining companies, even if once Canadian, are now owned by non-Canadian multinationals. However, the brunt of Canadian activity is by junior miners, mainly based in exploration. Their practices are often as destructive as senior miners, although they often work more quietly. There is little legislative framework to guide their operations, many simply engaging in environmentally dangerous prospecting (that is searching for possible subsoil
resources), very frequently without consent from local communities and typically with even less government oversight than declared mining exploitation. Listings on the Toronto Stock Exchange, allow for indistinct declaration of true, exploitable resources versus suspected reserves, thereby fuelling speculation, driving share prices higher often for insider profit. (For instance, in the mid-twentieth century, 30% of mining shares traded in Toronto involved brokers’ own private accounts.) Canadian extractive industries listed on the TSX particularly benefit from their capacity to issue flow-through shares for exploration within Canada. This mechanism allows shareholders to benefit from tax credits that the company would have enjoyed had it not already been exempt from paying taxes. This fiscal transfer thus encourages investment in extraction, further fuelling speculation, and also gives the companies an indirect public subsidy, since otherwise these investments would have contributed to the public purse. Furthermore, public pension funds are heavily invested in mining companies too, thereby implicating public participation as well (Deneault & Sacher, 2012). The Canadian public is largely, perhaps willfully ignorant of these matters, exacerbated by shackles on investigative journalism of mining interests.

Mining corporations have also utilised the logic of free trade to offshore their exploration, thereby circumventing domestic opposition to their activities. Canadian mining is particularly active in Latin America, considered the backyard ever since it served as a proxy battleground for the Cold War. Developing free trade agreements, both bilaterally and multilaterally, have allowed mining companies not only to expand their activities but also seek recourse in international tribunals to override local sovereignty on decisions governments make. Although not formally covered by a Canadian free trade agreement, Vancouver-based Pacific Rim is challenging the El Salvador government through a World Bank tribunal in its decision to prevent further operations at its El Dorado site (Gray, 2012). While there are few international legal frameworks assisting the rights of nations to protect their environment from corporate onslaught, global structures instead seem designed to favour the investment of transnational corporations. Further, just the threat of arbitration can be an effective weapon that companies use to advance projects even when governments attempt to resist.

Many Canadian companies operate through subsidiaries abroad as this arrangement benefits their tax liability (Natural Resources of Canada, 2011a). Even domestically, Canada is one of the few jurisdictions that taxes profits rather than what is actually produced, thereby also favouring the company when it comes to net income. Mining companies can also legally carry-over annual losses to bring their net profit in any given year to zero, and thus pay no tax (Natural Resources of Canada, 2011b). Given that Canada also now has one of the lower corporate tax rates in the developed world (CBC News, 2012c) – such as the widespread elimination of capital tax in Canada – mining companies also benefit from an increased capacity to hold onto private revenue rather than redistributing what they have extracted from the environment to the general population (Natural Resources of Canada, 2011c).

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2 Pacific Rim used a US subsidiary trade agreement, the US-DR-CAFTA. The case continues now under a Salvadoran investment law.
As shown above, Canada provides a very particular domestic framework that allows the transnational mining corporations a haven to operate abroad. There are political and cultural contexts which preclude dissent to their activities and their impunity, and there is an economic and fiscal structure that lets the owners of extractive industries accrue benefit with little need to redistribute or reinvest in their host communities. Weak mechanisms of global accountability exacerbate this poor domestic scrutiny. The supremacy of the extractive industry’s oligarchy on the political process in Canada has dire domestic consequences, but it also has a severe impact on communities struggling against Canadian mining corporations abroad.

Improving global governance related to mining will require global mechanisms of monitoring and enforcement to regulate this transnational sector to ensure that communities actually get benefits of extractive industry redistributed to them, rather than bearing the costs alone. Reducing the various health harms of mining activity will also require greater respect when communities do not consent to mining activities, and consideration that mining activities may be reduced in the future and there may be no-go zones.

But let us consider a specific instance of a Canadian company operating in another country.

**The Marlin Mine in Guatemala.** The Marlin mine, opened by the Glamis Corporation in 2005, was the first large scale metal mine to be put into operation after genocidal armed conflict in Guatemala. The mine opening followed passage of a mining law in 1997 that created a more favourable investment climate for foreign investors in the sector, but was passed without consultation with the country’s indigenous people. Within a year, the mine was acquired by Goldcorp, a Canadian mining company. The mine employs 1900 people, about half of whom are locals, and 98% of whom are Guatemalan residents. However, this employment number is likely to be inflated, given the prevalence of hiring workers on a rotational basis at the mine (e.g. one week on, one week off) (Zarsky, and Stanley, 2011). The mine has been a source of great public concern regarding damage to human health and the environment, violation of indigenous rights, and social conflict and insecurity. Consequently, a significant protest movement has emerged, encompassing not only the local community but nearby communities, partner advocates and researchers in Canada, and civil society groups from nearby Latin American countries. Much of the focus of the protests has been on concerns about health, but there is also a clear underlying concern that the mine was opened without community consultation, and that decisions continue to be made without local consent and against community self-determination.

The community advocates argue that Guatemala has national laws that require that local communities be consulted prior to approval of mining initiatives or expansion of activities, based in part on its 1996 ratification of the International Labour Organization’s Convention 169 on the rights of indigenous peoples, and signed Agreement on the Rights and Identity of Indigenous Peoples as part of the Peace
Accords. The UN Declaration on the Rights of Indigenous People’s also reinforces the requirement of prior community consultation and consent.

As soon as the mine opened, local residents filed a complaint with the Office of Compliance Advisor/Ombudsman (CAO) for the World Bank. From the CAO report,

“The complainants ask that the IFC’s loan to the project be revoked on the following basis:
1. Water demand from the mine will deny access by communities to their water supplies;
2. The mine will use unsafe processing methods that will contaminate the environment and the water supplies used by downstream people;
3. The rights of indigenous people have been violated as a result of failure by the project to consult with them about the proposed development and its environmental and social impacts;
4. The presence of the mine is resulting in social conflict, violence and insecurity.” (CAO, 2005)

The CAO’s response largely consisted of recommendations for improved communication, engagement and transparency with local communities and participatory monitoring. The CAO also had recommendations for the IFC in relation to improved guidance for and documentation of approval processes and more cautionary approaches in relation to community engagement. However, no changes were made by the government or the company in relation to mine activities, planning, or decision-making.

After several years of struggle, advocates won a victory when the Inter-American Commission on Human Rights (IACHR), the International Labour Organization’s Committee of Experts, the UN Special Rapporteur on the Rights of Indigenous People recommended suspension of mining operations, and even Goldcorp’s own Human Rights Assessment of the Marlin mine recommended a suspension on exploration, mine expansion and land acquisitions pending consultation and agreed upon structure for land acquisitions.

The Colom government ignored the suspension order, and the recently elected president of Guatemala, President Otto Perez Molina further refused to issue any new directives and lifted a moratorium that had been in place on new mining concessions. This president has a specific, aggressive interest in dramatically expanding mining activity, and is pursuing a plan for 40-50% state ownership in the country’s mines. Within six months of taking office in January of 2012, he had approved 68 new exploration licenses, with 387 mining concessions and another 734 pending, many on indigenous land (MiningWatch Canada, 2012b). Given the sheer number of licenses and concessions in such a short period, dismissing legal requirements for public consultation prior to approval has become the norm, despite (or perhaps because of) widespread public opposition to mining—a recent public opinion survey estimates that 66% of Guatemalans oppose mining (personal communication with Jennifer Moore of MiningWatch Canada, 2013). This situation,
and the dismissal of indigenous rights and concerns out of hand, does not bode well for the future of mining in Guatemala, and social movements against mining continue to gain traction not only nationally but also in nearby countries.

MiningWatch Canada reports that:

“The lack of prior consent and consultation at the project and policy level is at the root of much conflict and violence in Guatemala’s mining sector. Over 70 municipalities have held referendums in which nearly a million people having voted against mining in their territories, but neither the government nor mining companies have respected the results. Meanwhile, targeted attacks and criminalization against those opposed to mining has intensified” (MiningWatch Canada, 2012b).

In July 2012, civil society advocates, along with the Mesoamerican Movement against the Mining Model (M4) and the Mining Injustice Solidarity Network of Toronto and others, organized an International People’s Health Tribunal. Physicians for Human Rights presented the results of their preliminary study of toxic metal exposure near the Marlin Mine, most significantly that communities adjacent to or downstream from the mine had higher levels of urinary mercury, copper, arsenic and zinc than those living further away; and community members were suffering from stress (Basu and Hu, 2010). This work precipitated the IACHR’s precautionary measures calling for suspension of the mine. Other groups at the Tribunal presented study findings and testimonials related to health impacts such as respiratory diseases, skin diseases, increased instances of cancer, premature births, an increase in birth defects and miscarriages, and physical violence such as assassinations and government repression. They cited increased alcoholism and HIV/AIDS, violence against women and domestic violence related to mining activity in the region. Representatives from mining communities in Honduras and Mexico also presented their cases to a panel of 12 judges consisting of prominent human rights defenders and ecologists, health specialists, and scientists from five different countries (Geglia and Mychalejko, 2012).

Despite the non-legally binding status of the findings of the Tribunal, there was broad consensus that the event was a success, giving voice for people to air their grievances, systematize information, generate solidarity and resolve, and serve as a symbol of resistance.

**Abuses are tolerated by government in high-income countries**

These abuses are inflicted not only on the people of low income countries, but also on the most oppressed populations in high income countries. Indigenous communities that live in the vicinity of active mines across Canada often see little benefit from the economic activity, leading to protracted conflicts. Most infamously is Attawapiskat in northern Ontario, which is the nearest settlement to a DeBeers diamond mine in Ontario’s Ring of Fire, a remote 10,000 square kilometer area where 30,000 mining claims have been staked. The situation in Attawapiskat is one of extreme poverty, high suicide rates, far lower life expectancy than the Canadian
average and continuing systemic racism. The community declared a state of emergency in winter of 2012 as they were living in harsh subzero conditions (-30 degrees Fahrenheit or colder) in substandard housing—including tents, trailers and rotting houses. For years the children in Attawapiskat have been without a school, and are taught in sub-standard portables. The community continues to contest the manner in which DeBeers and other companies exploit their traditional territories, saying current agreements are unfair and coercively signed.³

**Social Movements for Mining Justice**

Governance at the global and national levels has dramatically failed mining communities around the world, with devastating consequences. But government is not the only answer, and civil society organizations focused on the people’s health and public interest have begun to organize and fill some of those leadership gaps. Civil society groups are broadening, deepening, and gaining traction in Latin America, Africa, Asia and other parts of the world to shine a light on the activities and impact of mining and other extractive industries. They are being joined by compatriots in high income counties who eschew their own government’s practices, siding rather with justice, human rights, and basic concepts of fairness and human well-being.

Social justice movements have proven to be vocal critics of the disregard shown by extractive industries for Indigenous Peoples and their lands, health concerns related to mining processes, violence against community members, environmental degradation related to extraction and so forth. Many social justice organizations work specifically to bring about social, economic and environmental justice in relation to mining activities. These organizations have emerged not to promote self-interest, but rather out of the need for community self-protection, and a growing recognition of patterns of behaviors by companies, often complicit with governments, to abrogate human rights, violate ethical and legal standards, suppress information that could impact profits, and undermine organisation and social action for change.

Civil society organizations work in various areas related to mining justice, including action to protect water; reform mining policies and laws; promote environmental planning; ensure corporate accountability; and work to decriminalize actions by environmental protection groups. They perform monitoring and reporting functions, too, such as tracking working and living conditions, emissions, violence against workers and communities, and occupational safety violations; and they sample of water, air, soil, and animal and human tissue. And they elevate and broadcast the voice of communities through support for local action, social media, legal action, and other activities. While different groups play different roles, with smaller groups often having a more local, participatory relationship accountable directly to communities they work in, and larger organizations playing more complex roles

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³ For more information on the work of Idle No More, see MiningWatch Canada, 2011; Keevil, 2011; Stewart, 2009; DeBeers Canada, 2009.
that may include research, regional coordination, and global advocacy, each fills a critical niche in advancing health and justice in relation to extractive industries. It should also be noted, though, that there are long-standing problems in that some environmental and development CSOs have been known to collaborate with industry in ways that compromise respect for communities affected by their activities, suggesting that CSOs themselves differ in terms of advancing justice. Below are but a few short examples of the remarkable work by some CSOs responding to the global challenges of social justice related to extractive industries.

Oxfam’s “Right to Know Right to Decide” campaign is aimed at increasing transparency of decision-making, information to communities about the impacts and benefits of projects, and community participation in decisions related to extractive industries. Oxfam America is currently launching a petition to pressure oil companies to drop a lawsuit against the U.S. Securities and Exchange Commission to block new transparency rules, which, it is suspected, would reveal illegal payments to governments. Oxfam is also supporting La Oroya, Peruvian, which is facing a lead-related public health crisis due to pollution from an almost 100-year old metal smelter run by the Renco Group, to take their case to the U.S. Congress (Hufstader, 2012).

In an effort to support citizens of resource-rich countries and others to hold governments and extractive companies to account and ensure that mineral resources are used in a fair and sustainable way, a civil society coalition of more than 300 member groups around the world created the Publish What You Pay Campaign. They are currently calling on EU-listed and large unlisted extractive industries companies to adopt mandatory reporting on financial payments to governments (Global Witness, 2012b).

IndustriALL’s by-line is “Leveraging the power of trade union organizing.” IndustriALL Global Union, founded in June of 2012, represents 50 million workers in 140 countries in the mining, energy and manufacturing sectors, building global solidarity and advocating at a global level for better working conditions and trade union rights around the world (IndustriALL, 2013). As they say: “IndustriALL fights for another model of globalization and a new economic and social model that puts people first, based on democracy and social justice.” By joining together affiliates of the former global union federations: International Metalworkers’ Federation (IMF), International Federation of Chemical, Energy, Mine and General Workers’ Unions (ICEM) and International Textiles Garment and Leather Workers’ Federation (ITGLWF), the organization hopes to promote action for workers in a wide range of sectors from extraction of oil and gas, mining, generation and distribution of electric power, to manufacturing of metals and metal products, shipbuilding, automotive, aerospace, mechanical engineering, electronics, chemicals, rubber, pulp and paper, building materials, textiles, garments, leather and footwear and environmental services. A quick scan of IndustriALL’s webpage on a particular day shows only days-old news reported on mining issues on the Rio Tinto mine in Australia, unionizing and intimidation of mine workers in Colombia, an upcoming international Day of Action to be convened in Mexico, the death of 8 workers in a Turkish mine
operated by a sub-contractor, union-busting by a Copper company in Kazakhstan, and information on their campaign for living wages and ratification of ILO Convention 176 on mine safety (IndustriALL, 2013).

Not all civil society groups that contribute to justice in mining work exclusively on extractive industries issues. The goal of the Bench Marks Foundation is to promote corporate social responsibility and socially responsible investment. They focus on promoting a culture of ethical investments in the churches and faith communities, monitoring multinational corporations operating in Africa to ensure that they meet minimum social, environmental and economic standards; and promoting an ethical and critical voice on what constitutes corporate social responsibility. Bench Marks has focused attention on corporate social responsibility in the mining sector, and recently issued an extensive set of recommendations for improving the mining sector, based on a significant body of research on the legislative environment, policies and practices of mining corporations in Southern Africa, and community engagement (Van Wyck, 2012).

Recently, Bench Marks Foundation, Economic Justice Network of FOCCISA, Norwegian Church Aid and IANRA (International Alliance on Natural Resources in Africa), among others, organized a counter event to the massive Mining Indaba, the world’s largest gathering of mining’s most influential stakeholders and decision-makers (around 7 500 participants from more than 100 countries) with vested interests in African mining. Workers and Communities do not have a voice at the Mining Indaba, and consequently the People’s Mining Indaba has been held for the past four years to bring attention to the health and justice challenges that must be addressed by the mining industry and oversight bodies. The People’s Mining Indaba included about 125 community members and workers from South Africa and other regional countries - Angola, DRC, Kenya, Namibia, Tanzania, Zambia and Zimbabwe. There were also civil society organizations and participants from Canada, Norway and Sweden, as well as the People’s Health Movement. In addition to sharing of health research, discussion of priorities for action, and networking among participants, a major outcome of the event was the development of the People’s Indaba Final Declaration (see Appendix 2). Participants are currently working to organize the People’s Indaba for 2014, which will again be held in Cape Town, with plans to advance coordinated regional and global advocacy, high priority research, and strategies for action.

Clearly, there is tremendous and growing social mobilization around the health and social impact of extractive industries at the global, regional, and local levels. The list of engaged groups would go on for several pages. While these early efforts need to be supported and nurtured, too often they are being actively suppressed. It is imperative to recognize that organizations such as these are an essential part of the
process of advancing social justice and sustainable practices in extractive industries. They must be incorporated in any effective governance solution, and governance bodies must stand in solidarity with their efforts to put people first. Because they are community based and directed, and they do not rely upon the good will of mining company executives, these kinds of organizations are rooted in peoples’ needs and will continue to struggle for their rights as long as these injustices exist. Efforts to improve health status in mining affected communities must recognize the important role these groups play in improving governance for health.

**Ways forward**

Most of this paper has focused on health and social problems created by mining and other extractive industries around the world. Finding a way forward is essential, given the grave nature of the injustices created by past and current extractive industries.

Although some communities have called for a complete end to mining and other extractive industry activities because of the massive health, environmental, socio-economic destruction created, mining and extractive industry efforts will likely continue all over the world simply due to our continued reliance on and need for metals and minerals in daily life. Almost all people in the world, including the poor, including indigenous peoples, even including those negatively affected by mining, use products that are created through the extraction of metals and minerals. It is impossible to imagine modern day life without products created through extraction activities.

In this section, we propose several areas of focus for developing solutions to the serious problems caused by mining, including specific recommendations to improve adherence to human rights principles and agreements; advance a development framework predicated on principles of sustainability and justice; and strengthen performance related to good governance.

Globally, many positive steps are being taken, perhaps most of all by community members and other concerned people through social mobilization efforts. However, many of the governance measures essential to protecting communities and helping them benefit from the mineral wealth of their lands remain rhetorical. If there are communities that are in happy symbiosis with mining, they are not easy to find.

Genuine efforts to improve this situation involve all stakeholders: communities and civil society organizations, governmental bodies in multiple vertical and horizontal spaces, researchers and academia, industry, and others. Involvement of stakeholders requires more than consultation. It requires community decision making authority at the planning, implementation and evaluation stages.
1. Improve adherence to human rights principles and agreements

The principles for improving the human impact of extractive industries can be found in existing human rights documents, including safety, labor and employment rights and environmental protection. The UN Declaration of Human Rights incorporates 30 articles, most of which are violated on a daily basis in communities proximate to extractive industries: Right to Equality; Freedom from Discrimination; Right to Life, Liberty, Personal Security; Freedom from Slavery; Freedom from Torture and Degrading Treatment; Right to Recognition as a Person before the Law; Right to Equality before the Law; Right to Remedy by Competent Tribunal; Freedom from Arbitrary Arrest and Exile; Right to Fair Public Hearing; Right to be Considered Innocent until Proven Guilty; Freedom from Interference with Privacy, Family, Home and Correspondence; Right to Free Movement in and out of the Country; Right to Asylum in other Countries from Persecution; Right to a Nationality and the Freedom to Change It; Right to Marriage and Family; Right to Own Property; Freedom of Belief and Religion; Freedom of Opinion and Information; Right of Peaceful Assembly and Association; Right to Participate in Government and in Free Elections; Right to Social Security; Right to Desirable Work and to Join Trade Unions; Right to Rest and Leisure; Right to Adequate Living Standard; Right to Education; Right to Participate in the Cultural Life of Community; Right to a Social Order that Articulates this Document; Community Duties Essential to Free and Full Development; Freedom from State or Personal Interference in the above Rights (United Nations, 1948). Each one of these articles is relevant to the operations of mining companies around the world and could be used as a road map for improved governance structures. Here we will highlight only a few of these, and their implications for the sphere of mining.

Article 23, the Right to Desirable Work and to Join Trade Unions makes the following declarations.

1) Everyone has the right to work, to free choice of employment, to just and favourable conditions of work and to protection against unemployment. For effective mining governance, community members who wish to work in mining operations ought to have rights to work at the more complex aspects of mining operations as well as in the more menial tasks. They ought to have the right to be trained by the mining company so as to become competent workers in a safe workplace/environment.

2) Everyone, without any discrimination, has the right to equal pay for equal work. Women who work in the mining sector ought to be paid the same as men doing the same level of work. Women mine workers ought not to be relegated to stereotypical jobs such as cleaning, laundry, cooking and other domestic-type work. Particularly because traditional domestic labour is undervalued, women ought to have opportunities for work that is typically done by men. Furthermore, the female mining workforce requires detailed planning prior to initiation of mining activity (Bench Marks Foundation, 2012). Women workers require gender-specific facilities such as washrooms, resting/sleeping quarters, and so forth. Workplace policies to
prevent sexual harassment and exploitation of women workers ought to be included in contracts of all levels of mine workers. Education and training sessions that focus on women’s equity issues ought to be regularly implemented in the mining workforce.

(3) Everyone who works has the right to just and favourable remuneration ensuring for himself (sic) and his family an existence worthy of human dignity, and supplemented, if necessary, by other means of social protection. Minimum wage legislation ought to exist in every jurisdiction in which the mining sector enters and mining companies ought to abide by these regulations.

(4) Everyone has the right to form and to join trade unions for the protection of his (sic) interests. Job security for union activists is an important right. Mining unions have negotiated scholarship funds for advanced education, hospital access, emergency medical services on site, food security, safe and affordable housing, schooling for children of mining families and so forth. Mining unions ensure that fair wages and health care benefits are distributed equitably.

In addition to the above basic labour rights, members of the mining workforce ought to receive sufficient training for all levels of work they aspire to take up. This training ought to create sustainable jobs so that after a mining company leaves, this workforce is still employable, either within the same sector or others.

We will not expound upon Article 25, Right to Adequate Living Standard because it speaks for itself: (1) Everyone has the right to a standard of living adequate for the health and well-being of himself (sic) and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control. (2) Motherhood and childhood are entitled to special care and assistance. All children, whether born in or out of wedlock, shall enjoy the same social protection.

These human rights are internationally agreed upon through member states of the UN. No enforcement body, however, exists on a wide scale to penalize and otherwise hold accountable those countries or corporations that do not abide by these articles. In extreme situations the International Criminal Court, connected to the UN, exists as a permanent tribunal to prosecute against 4 types of crime: the crime of genocide; crimes against humanity; war crimes; and the crime of aggression. Depending on the definitions used for crimes against humanity, mining related injustices could be interpreted as crimes against humanity because of the systemic nature in which they are manifested; mining injustices include murder, torture, rape, persecution and other inhumane acts (Horton, 2005).

Because of the slow and bureaucratic process along with the limited scope of what constitutes such crimes, the International Criminal Court is not currently a viable mechanism to prosecute the injustices perpetrated by mining companies. However, because these injustices occur on a global scale by transnational corporations, it behooves a global entity such as the UN to create a high performing, active
enforcement agency that would prosecute HR violators. Creating such deterrence for mining businesses is one way of preventing their reckless behavior. Furthermore, prosecution of mining injustices that involves financial payments to communities who have been victimized by mining companies creates more accountability.

Because mining so commonly affects indigenous peoples, human rights documents focused on the rights of indigenous peoples usefully relate to issues tied to mining and extractive industries. It is worth noting, too, in relation to the advancement of a human rights approach, that James Anaya, the United Nations Special Rapporteur on the Rights of Indigenous Peoples, is currently conducting a public participation survey on extractive and energy industries activities in and near indigenous territories “in order to analyze their impacts on indigenous peoples and the human rights issues they have created, as well as to identify good practices that avoid or overcome those issues.” Study findings, including recommendations, are expected to be presented to the Human Rights Council in 2013 (see http://unsr.jamesanaya.info/study-extractives/index.php for more information).

But these human rights principles, documents, and treaties are only effective insofar as they are seen as authoritative and used to guide enforcement action. Currently, human rights are routinely broached even in countries that have ratified treaties. Attention should be given to examining whether what is needed is a new enforcement mechanism, new treaties or conventions, or other solutions for ensuring that human rights are consistently upheld.

2. **Advance a development framework predicated on principles of sustainability and justice**

“In 2009, Africa’s oil, gas and minerals exports were worth roughly five times the value of international aid to the continent ($246 billion vs $49 billion). However, instead of their wealth being used as a building block for development, countries rich in natural resources, such as oil, gas, timber or minerals frequently end up blighted by inequality and bad governance. In spite of increasing international recognition of this phenomenon – often referred to as ‘the resource curse’ – governments, multilateral institutions and companies have all failed to do enough to tackle it.” (Global Witness, 2012b)

The lack of global adoption or even proposal of a development framework that considers the role of extractive industries and is predicated on principles of sustainability and justice is unacceptable after so many centuries of suffering, and undeniable evidence of the continuing generational damage being done to individuals, families, communities and countries. Global, as well as national development strategies must be advanced quickly that promote sustainability and do not have extractive industries at their centre. Bodies charged with developing such strategies and frameworks, and overseeing their implementation, should
include strong representation from and of communities affected by mining or other extractive industries, civil society organizations and social movements.

As called for in the Bench Marks Foundation recommendations (see Van Wyck, 2012), adopting a cost accounting approach that internalizes costs related to environmental degradation, clean-up needs after mines close, health and social costs to communities, and other such issues, would contribute to supporting better decision-making regarding development of new extractive industry projects. For instance, the current lack of enforcement of occupational health and safety laws, and weak laws in some places encourage a culture that considers human lives disposable. But consideration of the cost of health care and life-long caregiving for sickened mine workers, based on expected human impacts of specific mines and proposed mining practices, along with set-asides to pay those costs prior to commencement of and during projects, could cause companies to prefer a protective approach to human health.

Given the significant and growing research base related to mining and extractive industries related issues, accounting approaches to support internalization of costs is increasingly feasible. However, there are also significant research gaps, and it is critical to organize a coordinated effort to establish a research agenda, prioritize research issues, and properly fund independent researchers to undertake the work. Seriously incorporating the precautionary principle into formal decision-making processes, and being willing to suspend approval processes when research demonstrating safety is lacking, could make important contributions encouraging sustainable practices.

**Promote conservation/recycling of metals and minerals.** Conservation and recycling of materials is an essential component of improving sustainability and reducing harms related to mining and extractive industries. Metal products, such as cars, large appliances, electronics and other such items are recycled and the metal reused in many countries for a variety of purposes. While this practice is, on the surface, a net positive in terms of human impact, it should also be noted that the process of gathering materials for recycling, which often occurs in an informal economy, can be dangerous. Thousands of children as well as adults in China, India, Latin America and Africa are exposed to toxins every day through their efforts to recycle as a way to raise money to survive. Much more support must be given to controlling disposal of toxins and their collection for recycling, as well as accidental exposure related to discarded toxins (see the work of the Blacksmith Institute for more information on this issue).

**Reduce demand for extractive metals and minerals.** Improving the ability to reuse and recycle metal reduces the need for mining activities (from an efficiency perspective), but may not reduce demand for materials. Currently, recycling aluminum results in a loss of about 15% of the material with every recycle; on the
plus side, with current technology, recycling aluminum requires 5% of the initial amount of energy to produce it from bauxite ore (Leon, 2012).

Improved and more efficient design and manufacturing of products can reduce relative demand. Most cars consist of 60% steel and iron by weight but manufacturers are working on lighter and more efficient design, largely to save gas consumption and other costs (Pyper, 2012); this is a win-win situation because automakers are generally interested in their bottom line before other concerns; if profits increase and less metal is used then benefits are accrued all around.

Reducing dependence on motor vehicles and encouraging and improving alternative transportation, making electronics more durable and long-lasting, and other technologies would reduce demand for raw materials and are part of this solution. However, it is not clear what could be feasibly accomplished at this point.

A more likely possibility would be to attempt to reduce demand for minerals of questionable social worth, such as the use of diamonds, gold, and platinum in jewelry. This would require a change in culture and “values.” Mineral products used only in jewelry and decorative products should form part of an “it’s ugly to wear...” campaign; the use of gold bricks as bank reserves is unproductive and unnecessary. Given the highly destructive effects of gold mining and the link between diamond mining and war/exploitation, we should encourage a collective campaign to reduce use of these materials as much as possible.

3. Strengthen good governance

Neither of the above strategies—promoting human rights frameworks and sustainable development frameworks—will succeed unless good governance practices are improved. Currently, local and national governments are often complicit in allowing health, human rights, and legal abuses to occur. Rules also should be examined at multiple levels to support consistency and reduce conflict.

Enforce existing rules. One of the most important actions that could be taken to strengthen good governance of extractive industries is to simply enforce the laws, regulations and treaties that already exist, and to adequately fund activities needed to do accomplish the task. Many countries have strong occupational health and safety laws, or—as we have seen—requirements for significant community consultation and often decision-sharing to support community self-determination. Illicit financial flows, including to governments, also fall into this category. The glaring recognition not only that these laws and rules are not enforced, but that the expectation has become that they will not be, and even that governments are complicit in this abrogation of responsibility is unacceptable. This must be one area for significant improvement, with consequences for failure.
Additionally, the prevalence of conflicts of interest (illustrated for instance in the number of South African governmental officials serving on boards of mining companies), illegal financial flows, and unethical lobbying and courting of government officials should be monitored and substantial fines levied for breaches. Such relationships need to be tracked not only at the national level but also at the international level, and companies found to routinely violate rules should be sanctioned.

**Improve employment conditions.** Advances in mining technology must be applied for the purpose of reducing occupational hazards and improving the safety and health of mine workers. Currently, such expenses are often seen as unnecessary, since there is little corporate accountability for health harms of workers, especially harms that manifest subsequent to employment. However, if cost accounting measures such as those suggested in the discussion above were adopted, investment in advanced mining technology to protect human (and environmental) health could be substantially boosted. Further, this transition should be tracked in terms of its impact on the environment, as increased use of robotics has also expanded mining operations and led to worsened environmental health conditions in some places.

Attention should be paid, too, to employment practices that increase workers’ insecurity and undermine their rights. Some of the practices that have been described in this report that are clear efforts by mining companies to intentionally avoid legal responsibilities as employers (such as subcontracting to local companies for hiring) or to maintain control over workers (such as migrant worker hiring practices) should be examined in terms of their human health and social impact. Companies should have the burden, for instance, to show convincing evidence of why subcontractors, or migrant workers, are needed before approval.

**Promote Protectionist Legal Principles.** In Sweden, Australia, Bolivia, Ecuador, and elsewhere, although legal rights exist to protect indigenous peoples upon whose lands mining activities occur in Sweden, Australia, Bolivia, Ecuador, and elsewhere (Fair Mining Collective, forthcoming 2013), most of these rights are contingent upon losses or destruction of some type. None of them appear to be proactive or preventative in nature; for example, in Sweden, Sami peoples are compensated if their reindeer have less land upon which they can graze—as a result of mining activities. It is up to the Sami to prove a causal relationship between mining activities and subsequent damage to their land.

The Bolivian and Ecuadorian constitutions guarantee indigenous peoples the right to share financial profits from mining activities. While this is positive, mining companies can hide their wealth through ‘creative’ accounting mechanisms. It is up to indigenous communities to prove if companies have made profits and how much—in order for them to be financially compensated. Without requisite, reliable, transparent, and independently verified financial flows and other accounting
statements, placing the burden of proof on communities is unreasonable. Pointing to one possible solution, in Australia, mining companies may be required to post security prior to beginning operations in order to have funds ready for compensation. Still, all of these regulations require communities to take action to prove either harm or profit. Legislation which binds mining companies to prevent damage to the environment and societies is urgently required. By examining historical documentation of mining damages, it would be possible to construct legislation and regulations that would predict possible problems and design solutions to these problems.

Support intergovernmental organizations to do their jobs. The ability of the World Health Organization, the International Labor Organization, and other intergovernmental bodies to support good governance for extractive industries, promote health, and ensure fair working conditions has been severely curtailed over the past several decades. Other United Nations bodies, as well as international trade bodies and others, have important roles to play in oversight, establishing more fair legal processes and standards, and mediating negotiations to protect vulnerable populations. These groups need better financial and human resources; at the same time, higher expectations and accountability for improving governance should be set for their actions. For instance, institutionalization into WTO agreements of U.N. human rights commitments or an enforceable code of conduct for ethical practices of mining companies could be a useful contribution to setting standards among companies.

Place civil society organisations squarely at the decision-making tables at multiple levels. Civil society organisations, and specifically public interest groups, are critical participants in advancing good governance in extractive industries. Free prior informed consent of communities and indigenous people must be mandatory to mining and drilling approval processes not only to minimize harm to communities and adequately prepare them for the impact of extractive industry activities, but also to uphold human rights commitments that have already been established. Further, there must be an acknowledgement that this democratic process may at times result in “no go zones” that must be honored when approvals are refused.

Civil society groups should be involved not only in a one-off fashion related to individual mining projects, but also in terms of developing national extractive industries development strategies as well as global governance principles. Further, they must have formal responsibilities and roles, and not be involved in an ad-hoc manner, which can lend itself to inclusion processes of convenience. The enormous number of appropriate groups, representing communities across the world and with substantial expertise and skills, along with widespread endorsement of such inclusive and democratic processes, suggests that there is little excuse for not including such groups.
Require transparency and equity in financial flows. Global Witness states that “One way of ensuring that countries rich in natural resources can benefit from the development of their resource wealth is through the transparency of financial flows from extractive industries. Disclosure of key information can discourage corruption, reduce conflict and improve stability in resource-rich countries – benefits that pay dividends to both investors and citizens alike” (Global Witness, 2012b)

Across countries. The Extractive Industries Transparency Initiative (EITI), a semi-governmental body established in 2002, produces reports on payments by companies from oil and mining industries to governments and government-linked entities, as well as revenues by host country governments. Currently, 14 countries have status as EITI Compliant (they have completed at least one reviewed and validated reconciliation report); and another 22 countries are EITI Candidate countries. However, no independent research could be found to determine whether the reports are accurate.

Building on that momentum, Global Witness, a leading participant of the EITI, is pushing for mandatory reporting of revenue payments to governments by EU-listed and large unlisted extractive and timber companies, with uniform, strong standards that close reporting loopholes, allow tracking of revenue sources to a particular region within a country, and inclusion of any payments that are significant to the local population (Global Witness, 2012b).

Within countries. Unfortunately, in many cases, national governments do not seem to be much more reliable than corporations in setting a fair playing field in terms of tax rates, public subsidies, and ensuring public funds are used appropriately and without support for private profit at the expense of the public interest. At the sub-national level, care needs to be taken to re-examine and set standards that are agreed to by communities for expectations of and accountability for community benefit, with comprehensive cost/benefit assessments that appropriately internalize commonly externalized costs, such as worker injuries and compensation, environmental protections, appropriate compensation when community members are displaced or impacted in other ways, etc.

Conclusions: mining justice and better health are possible

In its current state, the world needs mined materials. We rely on minerals for many activities of daily living. Unfortunately, mining activities have caused a massive loss of life and grave suffering in many species including human beings. Current global and national inequities are exploited by mining companies whose main focus is profit. Often, national and other levels of government affiliate consort with mining companies and this partnership has wrecked havoc on communities and ecosystems all over the world.

Many potential solutions to these grave problems exist. Creating more just and equitable societies in which each member is valued, would make the greatest difference. Reducing the demand for minerals and recycling metal products would
also be a huge part of the solution. HR legislation that is monitored and enforced would go a long way towards improving mining-related problems. An international criminal court that actively persecutes crimes perpetrated by mining companies (and governments that collude with them) would act as a deterrent for such crimes. Equitable governance structures, based on the main HR articles of the UN declaration, would help communities to benefit from mining activities. Myriad documents discuss the importance of mining companies performing environmental impact assessments, partnering with communities and being good corporate citizens. Governments in many parts of the world echo these kinds of sentiments, calling for mining companies to be transparent; the Extractive Industries Transparency Initiative (EITI) is a policy mechanism designed to promote good governance with a view to increasing economic prosperity, primarily within sub-Saharan African nations (Hilson and Maconachie, 2009). Prospecting and mining lease agreements that make community benefits and environmental protection mandatory priorities also hold promise to assist high performing governance structures.

Despite the plethora of research on what good governance should be and how it should pursued, evidence of good governance in practice within the extractive industries sector that is not produced by industry itself is difficult to find. A comprehensive political, social, economic, and environmental approach to solving these problems is urgently required. So at this point, good governance of extractive industries seems an aspirational goal as distant as Health For All, but critical to pursue for the same reasons. It must also be noted, though, that governance structures are not enough to rectify the tremendous power imbalances that exist between communities and mining companies, particularly given the often strong relationships between governments and mining enterprises. Mining justice movements exist in many parts of the world to address the tremendous socioeconomic and environmental harms that imposed by mining companies. These movements must be seen as a critical piece of the puzzle, and actively and consistently be included in the formal and informal governance structures. Without them, good governance will be impossible to achieve.
References


Hufstader C, Jul 30, 2012, La Oroya speaks to Washington


Appendix 1: Asbestos Relief Trust: example of a reparations scheme.

South Africa was the only country to have mined all three types of commercial asbestos over a period of about 100 years, engaging about 200 000 workers. Exposures were high for workers and their families, and extensive environmental contamination took place. After many years of intense struggles by workers and communities, the Asbestos Relief Trust (ART) was established in July 2003 following an out of court settlement with some of the former asbestos mining companies that operated in South Africa, including Gencor, Gefco, ACA, Msauli and Hanova Mining Ltd. They paid about R480 million (approximately US$ 60 million) into the ART, which is much less than originally anticipated but an important victory nonetheless.

The ART provides compensation to qualifying claimants who were occupationally or environmentally exposed to asbestos from qualifying operations. Payments are made for four asbestos-related diseases diagnosed through medical examinations which the ART pay for:

- Asbestosis / pleural thickening (10% - 40% lung function impairment), or ARD1;
- Asbestosis (40% or more lung function impairment), or ARD2;
- Asbestos related lung cancer, or ARD3;
- Mesothelioma, or ARD4.

The latest statement from the ART (www.asbestostrust.co.za) indicates that since 2003, the ART has processed 14 500 claims and paid out R244.8 million (approximately US$ 30 million) to 3 610 qualifying claimants. The ART is well administered and still has R301million (approximately US$ 45 million) to settle claims over the next 15 to 20 years. It has also made medical examinations possible for many rural workers who may not have had access to the services otherwise.

Particularly in the absence of a preventive culture—but certainly not as a replacement for it—the establishment of trust funds into which mining companies pay is one possible way to help redress the legacy of occupational and environmental problems caused by mining. However, harsh lessons from the ART indicate the compensation for individual claimants is very small and for mesothelioma sufferers in particular become available mostly after they have passed on. The negotiated trust deed is prescriptive and limiting in who qualifies for compensation on the basis of Lung Functions Tests (LFT's) and Chest X-ray readings. Given that most lung function machines globally have reference values that "race correct" there remain a nagging uncertainty that black workers may be further disadvantaged. Provision is made in the trust deed for community outreach programmes. This requires vision and innovative programmes driven by ongoing community engagement and initiatives. These and other shortcomings should be considered when future trusts are established.
Appendix 2: The Alternative Mining Indaba

Cape Town, South Africa 3rd – 5th February 2013

Declaration

We, members of Civil Society, having gathered at the 4th Alternative Mining Indaba (AMI) in a Peoples’ Indaba in Cape Town from 3rd to 5th February, 2013, comprising Faith Based Organisations, Pan-African Networks and Organisations, Trade Unions, Traditional Authorities/Leaders, Non Governmental Organisations and Community Based Organisations express our outrage at the Marikana tragedy because it could have been avoided if the company, trade unions and the government had acted responsibly;

We express our condolences and stand in solidarity with the families of the victims and survivors. We follow and watch with great interest the proceedings of Marikana Commission of Enquiry and expect justice to be done and those responsible brought to account;

We also express our unwavering support and solidarity with all other people who are victims of economic, environmental and social injustices surrounding the mining deals that put profit before people throughout the world;

We note with concern that African governments are over-dependent on mining and foreign direct investment as the path to development at the expense of other people-centred alternatives;

We remain concerned with the deliberate and systematic marginalisation of poor communities and the people in the decision-making and general governance of minerals and other natural resources throughout the value chain;

The Peoples’ Indaba over the past few years have exposed the true costs of mining and its devastating impacts on health, environment, ecology, economy and social wellbeing of workers and communities, which has been ignored by the elites in our society;

We are encouraged by the African Mining Vision adopted by the African Heads of States and Governments as a step towards addressing the challenges identified by the Peoples Indaba since 2009. We remind them that mining and other extractives must serve to address Africa’s challenges and contribute to equitable and sustained economic and social development;

We re-iterate that the “Corporate Mining Indaba 2013” excludes the participation of the actual owners of the mineral resources that are the basis of their meeting and therefore fail woefully to address environmental degradation, deepening of poverty, slippages in the quality of life and concentrating instead on the reckless pursuit of profit at any cost throughout the continent and the world;
The three-day Alternative Mining Indaba 2013:

- Deliberated the ongoing continental mining reform agenda represented by the Africa Mining Vision and its potential;
- Debated and analysed government policies and programmes for redressing environmental impacts of mining activities as well as compensation issues for communities affected by mining activities;
- Broadened our understanding of economic and financial policies that facilitate tax avoidance and evasion in the mining sector such as transfer pricing, opaque investment contracts and bilateral investment treaties;
- Shared experiences and justice and peace promoting strategies about the need for a new framework which puts people, environment and communities at the centre of development and not profits.

We now therefore:

1. Call on communities affected by mining to unite in national, regional and international coalitions and movements to fight for social and economic justice in the exploitation of mineral and other natural resources in their communities;

2. Demand ongoing and open negotiations and not “seasonal consultations” with the host communities by corporations and governments on the progress, impacts and declared resources extracted from their land;

3. Echo the sentiments of John Reggie UN Envoy of the company having the responsibility to respect the decision of the communities underpinned by concept of Free Prior Informed Consent, the state having the responsibility to protect and stand by community decision and the community to have a full access to duty bears remedy;

4. Call on African governments to effectively implement the Africa Mining Vision in a way that serves and addresses the needs of our countries;


6. Call on African government to work with the communities to pursue alternative development paths beyond mining;

7. Demand that our governments show leadership and be more transparent and accountable with regards to protecting the mineral resources and human rights of their people;

8. Call on governments to hold mining companies accountable for externalizing costs, and to ensure that mining revenues are redistributed equitably;
9. Demand that corporations’ tax responsibilities be increased and not override their corporate social responsibility;

10. Demand that African states should fully exercise their sovereign rights to impose their desired tax regimes to enable them provide social services;

11. Demand for greater transparency and accountability laws, policies and systems in order to tackle secrecy, structures and investments that facilitate tax avoidance and evasion;

12. Call upon African governments to strengthen their capacities to collect the rightful share of revenue from corporations.

We hereby avow our commitment to the above stated issues and pledge our ongoing support on the same with unflinching resolve and adamance! We are also committed to working together with communities and other progressive forces to ensure that these demands are met.

**Declared**

At the 4th Alternative Mining Indaba held at the Strand Tower Hotel in Cape Town, South Africa on 5 February 2013 with participants from: Zimbabwe, South Africa, Mozambique, Tanzania, Zambia, Botswana, Ghana, Namibia, Kenya, Angola, Malawi, Mauritius and Democratic Republic of Congo. We were also joined in solidarity by participants from Burma, Peru, Canada, Norway, Belgium, United Kingdom and Sweden

Under the auspices of: 
Bench Marks Foundation, Economic Justice Network of FOCCISA, Norwegian Church Aid and IANRA (International Alliance on Natural Resources in Africa).

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